REQUEST FOR FISCAL IMPACT STATEMENT (FIS)
(1) Summarize the rule

The rule implements the provisions of RSA 483:9-c, requiring the commissioner to adopt rules for the protection of instream flow on designated rivers. The rule requires that affected water users, that are registered in the department's water user registration program under RSA 482:3 and have water withdrawals from or within 500 feet of designated rivers, limit or cease water withdrawal during periods of low river flow. There are two levels of water use limitation (" phase I and phase II"), and a third level ("phase III"), the protected instream flow under RSA 483:9-c, at which withdrawals must cease. The commissioner sets the levels and the associated limitations after public hearing, for each watershed on a designated river.

(2) Is the cost associated with this rule mandated by the rule or by state statute? If the cost is mandated by statute then the rule itself may not have a cost or benefit associated with it. Please state either the statute or chapter law that is instigating this rule.

The requirement for protected instream flows on designated rivers is mandated by statute. The rules implement this requirement, and the cost associated with the rule is mandated by statute. The statute that is instigating the rule is RSA 483:9-c.

(3) Compare the cost of the proposed rule with the cost of the existing rule, if there is an existing rule.

There is no existing rule. For each of questions 3 through 9 in the Fiscal Statement Request, a low value and a high value of costs is estimated. The two estimates are intended to indicate the range of expected costs.

Low Cost Estimate

There are 52 affected water users (AWUs) impacted by the rules, with 64 withdrawal locations (Table 1, Figure 1). Assume that water use is 100% consumptive and the AWUs would be reliant upon stored water or alternate supply from wells during events requiring limitation or cessation of withdrawals. This requires a total of $31,366,194 in capital investment for new construction of the less costly option of storage ponds or alternate sources. Additionally, assume that there will be a 20% reduction is cost due to return flow credit and determinations of “no hydraulic connection” yielding a low cost estimate of $25,092,955. Further, assume that these costs are incurred uniformly for 15 years.

Total capital cost of $25,092,955 @ 15 years = **$1,672,864 / year**

High Cost Estimate

As in the low cost estimate, there are 52 affected water users (AWUs) impacted by the Instream Flow rules, with 64 withdrawal locations (Table 1, Figure 1). Assume that water use is 100% consumptive. Assume construction of wells for alternate supply is not viable, and therefore AWUs must construct water storage. For public water suppliers and similar uses, assume that this storage is a water tank or tanks constructed to specifications for public drinking water supply. An estimated total construction cost for storage facilities is $49,026,870. Further, assume that these costs are incurred uniformly for 15 years.

Total capital cost of $49,026,870 @ 15 years = **$3,268,457 / year**

(4) Describe the costs and benefits to the state general fund, which would result from this rule.

There are no affected water users that use the state general fund for water supply expenses.

Assume that it will require two staff persons at the department of environmental services to maintain and administer the Instream Flow Rules at $80,000 per person.

Two staff @ $80,000 / year = $160,000 / year

Assume that to enhance the accuracy of data procured to make determinations of low flow events, the DES will make five Stream Gage Upgrades @ $10,000 / gage. Additionally, the maintenance of each gage will be $4,000 / year / gage.

$10,000 @ 15 years @ 0% interest = $667 / year / gage =	$3,333 / year
Maintenance of five gages @ $4,000 / year =	$20,000/ year
Total gage cost =	$23,333 / year

Total annual cost to general fund = $160,000 + $23,333 = **$183,333 / year**

(5) Explain and cite the federal mandate for the proposed rule, if there is such a mandate. How would the mandate affect state funds?

There is no federal mandate for the proposed rule.

(6) Describe the cost and benefits to any state special fund, which would result.

Only one cost estimate is presented for this section as both state-operated users require water of surface water quality and may use surface water storage as alternate supplies during low flow periods.

There are 2 AWUs s that are state facilities: University of New Hampshire Waterworks and the Fish and Game Department's Milford hatchery. Assuming that historical water use is 100% consumptive the AWUs would be reliant upon stored water during a phase III flow and require a total of $3,069,878 worth of new construction for storage ponds or tanks. Further, assume that these costs are incurred uniformly for 15 years. (Table 3)

Total capital cost to state special funds = $3,069,878 @ 15 years = **$204,659 / year**

(7) Describe the costs and benefits to the political subdivisions of the state.

Low Cost Estimate

There are 15 municipal public water suppliers that are AWUs. Assuming that water use is 100% consumptive the AWUs would be reliant upon stored water or alternate supply from wells during limitation or cessation of withdrawals. This requires a total of $9,248,119 worth of new construction for storage ponds or tanks or for alternate sources. Additionally, assume that there will be a 20% reduction is cost due to return flow credit and determinations of “no hydraulic connection” yielding a low cost estimate of $7,398,495. Further, assume that these costs are incurred uniformly for 15 years. (Figure 2, Table 4)

Total capital cost of $7,398,495 @ 15 years = **$493,233 / year**

High Cost Estimate

As in the low cost estimate, there are 15 municipal public water suppliers that are AWUs and assume that historical water use is 100% consumptive. Assume that construction of wells for alternate supply is not viable, and therefore AWUs must construct water storage. For AWUs that do not already have ponds or open reservoirs for storage, assume that this storage is a water tank or tanks constructed to specifications for public drinking water supply. An estimated total construction cost for storage facilities is $24,854,730. Further, assume that these costs are incurred uniformly for 15 years. (Figure 2, Table 4)

Total capital cost of $24,854,730 @ 15 years = **$1,656,982 / year**

(8) Describe the costs and benefits to the citizens of the state.

Costs of water for public water supply customers and for persons that buy products or services from businesses and industries that are AWUs will increase due to required capital investment in water storage or alternate water supply. Customers of public water suppliers also may experience a shift to a conservation rate structure thereby increasing their cost if they do not conserve water.

The rules protect Instream flow in diverse riverine aquatic ecosystems resulting in benefits to the states fish and wildlife resources, angling opportunities, and recreational opportunities which may result in income estimated at **$129,776 annually** for $1,946,637 over 15 years. This estimate is based on the quantity of water conserved under the rules, and literature studies which estimate the value of water for instream uses on a per unit volume basis.

(9) Describe the costs and benefits to any independently owned business, including a description of the specific reporting and recordkeeping requirements upon those employing fewer than 10 employees.

Low Cost Estimate

There are 35 private business AWUs subject to the Instream Flow rules. Assuming that water use is 100% consumptive the AWUs would be reliant upon stored water or alternate supply from wells during limitation or cessation of withdrawals. This requires a total of $19,048,197 worth of new construction for storage ponds, tanks, or alternate sources. Additionally, assume that there will be a 20% reduction in cost due to return flow credit and determinations of “no hydraulic connection” yielding a low cost estimate of $15,238,558. Further, assume that these costs are incurred uniformly for 15 years. (Figure 3, Table 5)

Total capital cost of $15,238,558 @ 15 years = **$1,015,903 / year**

High Cost Estimate

As in the low cost estimate, there are 35 private business AWUs subject to the Instream Flow rules. Assume that historical water use is 100% consumptive and the AWUs would be reliant only upon stored water during limitation or cessation of withdrawals. This requires a total of $21,102,263 worth of new construction for storage ponds or tanks. Further, assume that these costs are incurred uniformly for 15 years. (Figure 3, Table 5)

Total capital cost of $21,102,263 @ 15 years = **$1,406,818 / year**

WORKSHEET DESCRIBING ASSUMPTIONS AND COMPUTATIONS FOR THE DRAFT FISCAL IMPACT STATEMENT REQUEST

Costs attributable to implementation of Instream Flow Protection under RSA 483:9-c will result primarily from costs incurred by Affected Water Users (AWUs) for construction of water storage or wells for alternate water supply during periods when the rules require limitation or cessation of withdrawal from designated rivers. An AWU will need to construct adequate storage or alternate water supply from wells to continue normal operations during river low flow events when withdrawals are limited by the rules. We estimate that 52 AWUs will be subject to the rules - 35 Private Businesses, 15 Public Water Suppliers, and 2 State-owned facilities. State government also will incur costs for administration of the rules.

Financial benefits from implementation of Instream Flow Protection under RSA 483:9-c will result primarily from increased opportunity for fishing, boating, and other river-based recreation resulting from the maintenance of river flows above the protected level.

COSTS

Historical water use for each AWU for each season is computed from withdrawal information submitted to DES under the Water User Registration Program (Env-Wr 701) (Table 1).

For each season, the frequency and duration of events that require water use limitations is estimated from a statistical analysis of historical river gage data (Fennessey, 2000) (Table 2).

Based on engineering cost estimates and cost history from recent projects for storage ponds, tanks, and water wells, the cost of building water storage or drilling a well for an alternative water source is estimated on a per unit volume basis.

The required volume of storage or required flow rate for an alternative water supply to continue normal operations is estimated based on historical water use records for each AWU and an estimate of the duration of consumptive use (withdrawal) limitations, at the upper 95% confidence level, required by the rules during periods of low river flow. The duration estimates are shown in bold in Table 2.

Costs to construct storage or alternate supply are then estimated for each AWU, and the results summed for three categories: state-operated facilities; municipal water suppliers; and private business (Tables 3,4,5). These totals are converted to an annual cost over a 15-year planning period.

ASSUMPTIONS FOR COST ESTIMATES

1. All water withdrawals are considered to be 100% consumptive use.
2. The Upper 95% Confidence Interval of the mean event frequency and duration estimate for water use limitations for each season and trigger flow is used to estimate the storage volume or alternate water supply flow rate required.
3. Where the frequency of events within a season is greater than one, the frequency times the average event duration is used to estimate the number of days when the rules restrict withdrawal (bold numbers in table 2).
4. Where the frequency of events within a season is less than one, the average event duration is used to estimate the number of days when the rules restrict withdrawal (bold numbers in table 2).
5. Storage needs for the three phases are nested. Days of storage for a Q60 event need not include the days for which there is storage for a Q80 events since on a daily basis, the Q80 storage requirement is larger. Similarly, storage for a Q80 event does not include storage for a Q90 event.
6. Storage, which is of sufficient volume to provide alternate water during the season of maximum need is assumed to be sufficient for all other seasons.
7. The alternate source that provides water at a rate sufficient to provide water during the most restrictive phase (phase III or Q90) for season of maximum demand is sufficient for all other phases and seasons.
8. AWUs that have a well as an affected source and require high quality water will require either a well with sufficient yield or a covered tank meeting public water supply requirements with sufficient storage to provide water during events. The high cost estimate is for tanks, and the low cost estimate for wells.
9. For users with multiple affected sources, the sources have been aggregated to yield a total cost to the user.

ASSUMPTIONS FOR BENEFITS ESTIMATES

1. The additional volume of water to be left in the rivers on an annual basis equals the total annual storage requirement for all AWUs.

COST ESTIMATION METHODS

Storage Pond Costs

Loon Mountain provided recent engineering cost estimates for construction of snowmaking ponds (14 storage pone options evaluated, at 26 to 137 million gallons capacity). We dropped the highest and lowest cost /gallon options to yield an average price of $0.126 per gallon for construction of water storage ponds.

Storage Tank Costs

From estimates of covered water tank construction costs of Natgun Inc. and N.E. Tank Systems we determined the construction cost of storage tanks of 0.25 to 10 million-gallon with costs ranging from $1.43 to $0.29 per gallon respectively.

Well Costs

The cost associated with wells producing 100-200 gpm is a combination of; testing, production well drilling, five-day pump test, permitting, and infrastructure for a total of $415,000 per well. We used $415,000 for users that would require rates of 50-200gpm, $830,000 for users of 200-400gpm, and $1,245,000 for users of 400-600 gpm.

The costs incurred by users that require less water may be estimated by drilling three bedrock or two sand and gravel wells plus testing an permitting at $50,000 for a need of 25 gpm. For needs up to 50 gpm we used a cost of $100,000.

BENEFITS ESTIMATION METHODS

Actual benefits to the state will come in the form of improved/protected environmental quality and improved/protected quality of life. Development of a fair market price of the benefits attributable to the Instream Flow Rules is inherently difficult, as these water-based services are not often priced by market processes. Assuming current operating practices of the Affected Water Users and no additional conservation measures, we would expect to see and additional 1900 acre feet of additional Instream flow in the designated rivers each year as a result of the rules

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Benefits will be seen specifically in angling, boating, shoreline recreation, additional recreational values, and hydropower generation opportunities. Market value of these uses in terms of incremental flow have been taken from a draft paper titled Benefits of Instream Flow in New Hampshire's Rivers Management and Protection Program (Ver.11, August 8, 2000), by the Ad Hoc Work Group on Economic Benefits, and are presented in 1998 dollars. An average estimate of the value of each acre foot of flow equals $68.29 or for a statewide total of $129,776 annually.

TABLE 1. Historical water use by affected water users.

11-Digit HUC	User ID	Username	River	Source	Withdrawal Use	Average Use in gallons per Minute			
						Winter	Spring	Summer	Fall
01060002010	20438-S01	Attitash Bear Peak	Saco R.	Saco R.	Snow Making	1062.0	26.8	1.2	1101.6
01060002030	20358-S01	N Conway Water Precinct	Saco R.	#1 Well	Water Supplier	0.0	0.0	11.7	0.0
01060002030	20358-S03	N Conway Water Precinct	Saco R.	#3 Well	Water Supplier	284.8	293.2	258.0	178.3
01060003100	20066-S02	University of NH	Lamprey R.	Lamprey R.	Water Supplier	0.0	0.0	26.4	0.0
01060003110	20351-S01	Pennichuck Water Works	Exeter R.	Green Hills Comm. Well	Water Supplier	33.1	35.0	33.2	34.0
01060003110	20468-S01	Sherwood Forest Mble Home	Exeter R.	Drilled Wells	Water Supplier	22.2	23.5	27.6	25.0
01070001030	20192-S01	Pike Industries Inc	Pemigewasset R.	Pemigewasset R.	Mining	0.0	61.0	190.9	49.2
01070001030	20234-S01	Jack O'Lantern Inc	Pemigewasset R.	Unnamed Stream	Irrigation	0.0	9.9	66.1	0.0
01070001030	20546-S01	Persons Concrete LLC	Pemigewasset R.	On-site Well	Industrial	0.6	1.4	3.0	2.2
01070001030	20635-S02	Owl Street Associates LLC	Pemigewasset R.	Pond	Irrigation	0.0	15.2	25.2	0.0
01070001080	20041-S02	Ashland Water Works	Pemigewasset R.	Gravel Well 1	Water Supplier	45.0	54.2	77.0	79.5
01070001080	20041-S03	Ashland Water Works	Pemigewasset R.	Gravel Well 2	Water Supplier	0.9	5.2	6.8	0.9
01070001080	20516-S01	Bridgewater Power Co LP	Pemigewasset R.	On-site Well	Power Biomass	136.5	155.2	180.2	147.4
01070002030	20357-S02	Franklin Water Works	Upper Merrimack	ACME Well #1	Water Supplier	89.0	88.0	78.3	76.1
01070002030	20357-S03	Franklin Water Works	Upper Merrimack	ACME Well #2	Water Supplier	77.1	76.0	55.8	87.4
01070002030	20357-S04	Franklin Water Works	Upper Merrimack	Franklin Falls Well	Water Supplier	153.2	158.9	138.3	50.8
01070002040	20361-S02	Boscawen/Penacook Prec	Upper Merrimack	GRAVEL WELL #1	Water Supplier	107.4	145.4	136.1	125.1
01070002040	20361-S03	Boscawen/Penacook Prec	Upper Merrimack	GRAVEL WELL #2	Water Supplier	40.2	85.1	74.7	55.5
01070002040	20378-S01	Gold Star Sod Farms Inc	Upper Merrimack	Merrimack R	Agriculture	0.5	126.5	283.7	7.5
01070002050	20379-S01	Gold Star Sod Farms Inc	Upper Merrimack	Merrimack R	Agriculture	0.0	4.5	29.2	0.0
01070002050	20459-S01	Brochu LA Inc	Upper Merrimack	Merrimack R	Agriculture	0.0	4.4	16.4	0.0
01070002050	20459-S02	Brochu LA Inc	Upper Merrimack	Pond	Agriculture	0.0	4.1	17.3	1.0
01070002050	20480-S02	Wheelabrator Concord Co	Upper Merrimack	Merrimack R	Power Biomass	259.3	268.2	300.4	272.6
01070002170	20065-S02	Wilton Water Works	Souhegan R.	Abbott Well Rt. 31	Water Supplier	83.7	81.8	95.5	75.1
01070002170	20100-S01	Milford Water Works	Souhegan R.	Curtis wells #1 & #2	Water Supplier	572.5	558.0	641.8	594.2
01070002170	20190-S01	Amherst Country Club	Souhegan R.	Souhegan R.	Irrigation	0.0	37.1	102.3	0.0
01070002170	20218-S02	NH Fish & Game	Souhegan R.	Well #1	Agriculture	776.5	579.6	653.7	618.9
01070002170	20523-S01	Souhegan Woods Golf Club	Souhegan R.	Souhegan R.	Irrigation	3.8	76.4	137.3	3.0
01070002170	20621-S02	Monadnock Mountain Spring	Souhegan R.	Intervale Rd Spring Well	Bottled Water	20.6	20.1	20.3	14.3
01070002170	20659-S01	Pennichuck Water Works	Souhegan R.	GPW 1 & GPW 4	Water Supplier	6.3	13.7	23.9	9.6
01070002170	20681-S02	Pilgrim Foods	Souhegan R.	Souhegan R. Well	Industrial	***	***	9.4	13.3
01070002180	20156-S01	Jones Chemicals Inc	Lower Merrimack	Well	Industrial	35.9	41.6	42.5	25.2
01070002180	20307-S01	Wilson Farm of NH	Lower Merrimack	Merrimack R/Brickyard	Agriculture	0.0	1.4	5.6	0.0
01070002180	20307-S02	Wilson Farm of NH	Lower Merrimack	Merrimack R/Main Farm	Agriculture	0.0	4.0	9.5	0.0

TABLE 1 (cont.). Historical water use by affected water users.

						Average Use in gallons per Minute			
11-Digit HUC	**User ID**	**Username**	**River**	**Source**	**Withdrawal Use**	**Winter**	**Spring**	**Summer**	**Fall**
01070002180	20307-S03	Wilson Farm of NH	Lower Merrimack	Merrimack R/Desert	Agriculture	0.0	0.0	7.9	0.0
01070002180	20476-S01	Passaconaway Country Club	Lower Merrimack	Merrimack R.	Irrigation	0.0	61.3	133.7	9.8
01070002210	20227-S01	Green Meadow Golf Club In	Lower Merrimack	Merrimack R.	Irrigation	0.0	0.0	317.4	0.0
01070002210	20684-S01	Nashua Country Club	Lower Merrimack	Merrimack R.	Irrigation	0.0	59.3	98.8	0.0
01070003010	20043-S01	Bennington Water Dept	Contoocook R.	Well	Water Supplier	73.5	77.7	80.2	55.7
01070003010	20059-S02	Peterborough Water Works	Contoocook R.	Summer St. Well	Water Supplier	107.6	84.9	124.5	116.5
01070003010	20172-S01	Harris Construction Co	Contoocook R.	Town Line Bk.	Mining	0.0	26.6	33.9	12.1
01070003010	20316-S02	Antrim Water Works	Contoocook R.	Well	Water Supplier	73.2	73.8	73.8	45.9
01070003010	20324-S02	Monadnock Paper Mills Inc	Contoocook R.	Well	Industrial	494.3	502.7	466.4	463.5
01070003030	20199-S01	Bio-Energy Corp	Contoocook R.	Contoocook R.	Power Biomass	403.7	377.3	346.8	334.4
01070003030	20619-S01	Angus Lea Golf Course	Contoocook R.	Contoocook R.	Irrigation	0.0	5.5	20.4	0.0
01070003030	20672-S01	Papertech Corporation	Contoocook R.	Contoocook R.	Industrial	95.7	88.5	84.0	87.9
01070003060	20005-S02	Concord City	Contoocook R.	Contoocook R.	Water Supplier	379.6	886.4	753.7	101.9
01080101110	20593-S01	Columbia Sand & Gravel	CT R Headwaters	Connecticut R	Mining	0.0	0.0	517.4	0.0
01080101140	20558-S01	Cummings, CB & Sons Co	CT R Headwaters	Well	Industrial	0.0	5.0	33.0	0.0
01080104060	20231-S02	Hanover Country Club	CT. R Upper Valley	Connecticut R.	Irrigation	0.0	3.2	26.3	0.0
01080104060	20478-S01	US Army	CT. R Upper Valley	Well in CT. R. Esker	Industrial	504.0	586.1	588.4	522.0
01080104090	20195-S01	Pike Industries Inc	CT. Mt. Ascutney	Connecticut R.	Mining	0.0	85.4	398.9	137.9
01080104090	20687-S01	Edgewater Farm	CT. Mt. Ascutney	Connecticut R.	Agriculture	0.0	1.9	9.3	0.0
01080104090	20687-S02	Edgewater Farm	CT. Mt. Ascutney	Connecticut R.	Agriculture	0.0	0.3	1.5	0.0
01080104090	20687-S03	Edgewater Farm	CT. Mt. Ascutney	Pond	Agriculture	0.0	0.6	3.1	0.0
01080104090	20687-S04	Edgewater Farm	CT. Mt. Ascutney	Connecticut R.	Agriculture	0.0	0.3	1.5	0.0
01080104130	20293-S04	North Walpole Vil Dist	CT. Mt. Ascutney	Well	Water Supplier	33.9	36.3	32.9	30.7
01080104130	20500-S02	Charlestown Water Works	CT. Mt. Ascutney	Well	Water Supplier	32.0	39.8	66.4	47.5
01080104150	20216-S01	Lane Construction Corp	Cold R.	Cold R.	Mining	0.0	3.9	14.7	1.3
01080104170	20595-S01	Cheshire County Complex	CT. Wantastiquet	Connecticut R.	Institutional	20.6	20.2	21.5	201.4
01080201010	20338-S03	Keene Public Water Dept	Ashuelot R.	Wells #2,3,4	Water Supplier	143.4	121.6	234.7	127.5
01080201050	20050-S02	Hinsdale Water Works	Ashuelot R.	Glen St. Wells	Water Supplier	64.5	71.0	67.5	62.5
01080201050	20137-S01	Paper Service LTD	Ashuelot R.	Ashuelot R.	Industrial	32.6	21.4	24.8	22.7
01080201050	20627-S01	American Tissue Mills/NH	Ashuelot R.	Ashuelot R.	Industrial	48.7	31.4	39.3	40.7

*** No Data Available

TABLE 2. State-wide upper 95% confidence interval for the frequency and duration of low flow events as determined from 34 gages by Dr. Neil Fennessey, under contract to DES. Bold numbers are for those used in the FIS calculations.

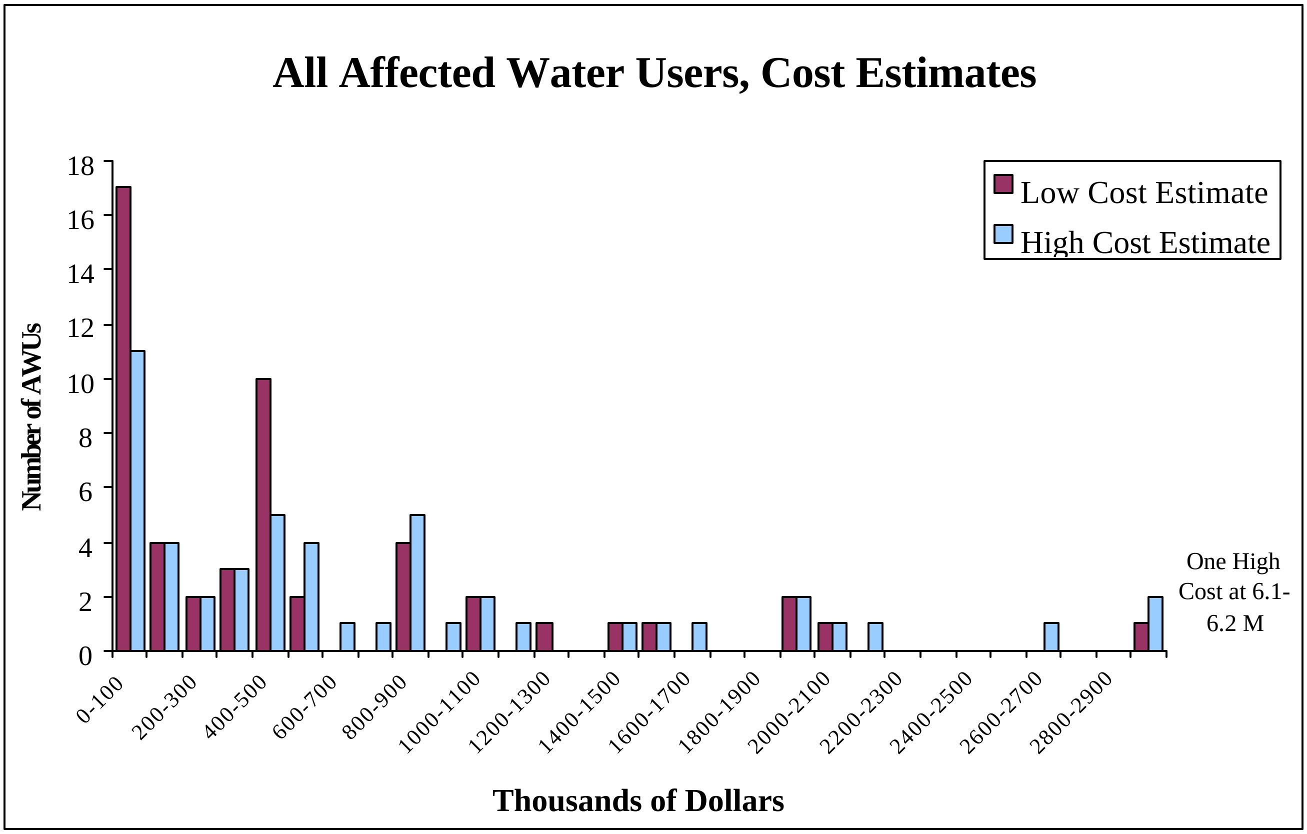
If the estimated Events per Year is less than one, then the length of time that storage or alternate water supply is needed is equal to the seasonal Days Per Event. If the estimated Events Per Year is greater than one, then the length of time that storage or alternate water supply is needed is equal to Days Per Event times Events Per Year, or Events * Days.

P(exceed)	Population	Days Per Event, Upper 95% C.I.	Events Per Year, Upper 95% C.I.	Events * Days, Upper 95% C.I.
60	**Winter**	24.42	1.32	**29.35**
60	**Spring**	16.24	2.13	**33.10**
60	**Summer**	22.65	2.91	**59.83**
60	**Fall**	18.01	1.50	**25.35**
60	Annual	21.00	7.45	149.52
80	**Winter**	**22.42**	0.71	14.31
80	**Spring**	13.34	1.31	**17.03**
80	**Summer**	17.64	1.73	**28.29**
80	**Fall**	**14.52**	0.90	12.33
80	Annual	16.67	4.43	71.46
90	**Winter**	**21.28**	0.37	7.11
90	**Spring**	**12.11**	0.73	8.62
90	**Summer**	**14.96**	0.97	13.47
90	**Fall**	**12.68**	0.52	6.22
90	Annual	14.53	2.46	34.90

DISCUSSION OF COSTS

Total Cost of Rule

FIGURE 1.



Costs to the State Special Funds

TABLE 3. Capital Investment in Today's Dollars to State Funds

User ID	Number of Sources Affected	Username	Maximum Seasonal Storage Need (mil. gal.)	Season	Event Days (Upper 95% CI)	Low Cost Estimate	High Cost Estimate	Method
20218	2	NH Fish & Game	23.801	Winter	29.4	$2,998,251	$2,998,251	Pond
20066	1	University of NH	0.569	Summer	59.8	$71,627	$71,627	Pond
						Low	**High**	
					Cost in Today's Dollars:	**$3,069,878**	**$3,069,878**	

Cost to Municipalities
FIGURE 2.

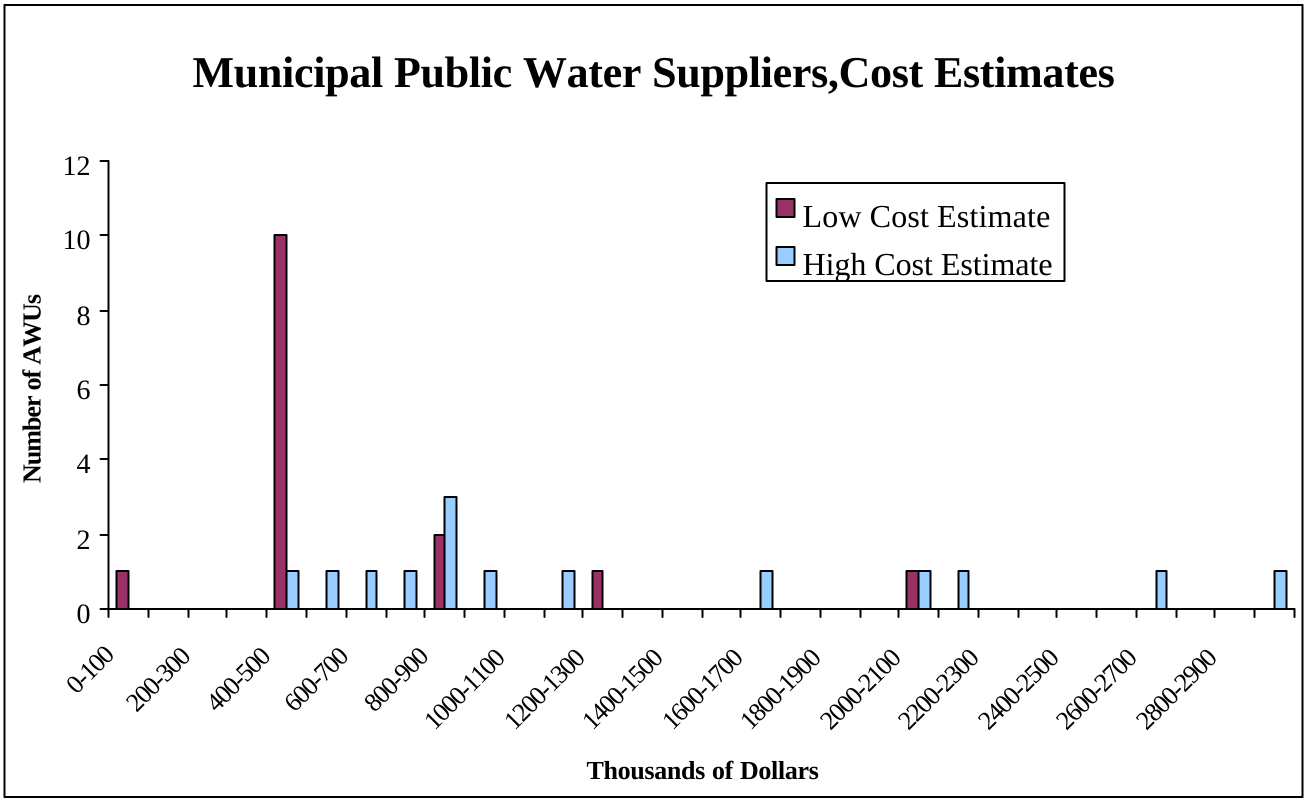


TABLE 4. Low Cost Estimate of Capital Investment for Municipal Public Water Suppliers in Today's Dollars.

User ID	Number of Sources Affected	Username	Maximum Seasonal Storage Need (mil. gal.)	Season	Event Days (Upper 95% CI)	Low Cost Estimate	High Cost Estimate	Methods (Low Est – High Est)
20316	1	Antrim Water Works	2.242	Winter	29.4	$415,000	$895,497	Well-Tank
20041	2	Ashland Water Works	1.658	Summer	59.8	$415,000	$778,965	Well-Tank
20043	1	Bennington Water Dept	2.252	Winter	29.4	$415,000	$898,262	Well-Tank
20361	2	Boscawen/Penacook Prec	3.291	Winter	29.4	$415,000	$1,604,513	Well-Tank
20500	1	Charlestown Water Works	1.430	Summer	59.8	$415,000	$678,939	Well-Tank
20595	1	Cheshire County Complex	3.676	Fall	25.4	$463,041	$463,041	Pond
20005	1	Concord City	16.234	Summer	59.8	$2,045,079	$2,045,079	Pond
20357	3	Franklin Water Works	2.726	Winter	29.4	$830,000	$2,907,776	Well-Tank
20050	1	Hinsdale Water Works	1.977	Winter	29.4	$415,000	$824,873	Well-Tank
20338	1	Keene Public Water Dept	7.097	Summer	59.8	$415,000	$2,190,975	Well-Tank
20100	1	Milford Water Works	21.901	Summer	59.8	$1,245,000	$6,140,931	Well-Tank
20358	2	N Conway Water Precinct	0.253	Summer	59.8	$830,000	$2,692,616	Well-Tank
20293	1	North Walpole Vil Dist	1.040	Winter	29.4	$100,000	$574,766	Well-Tank
20059	1	Peterborough Water Works	3.298	Winter	29.4	$415,000	$1,177,257	Well-Tank
20065	1	Wilton Water Works	2.563	Winter	29.4	$415,000	$981,239	Well-Tank
						Low	**High**	
					Cost in Today's Dollars:	**$9,248,119**	**$24,854,730**	

Cost to Private Business

FIGURE 3.

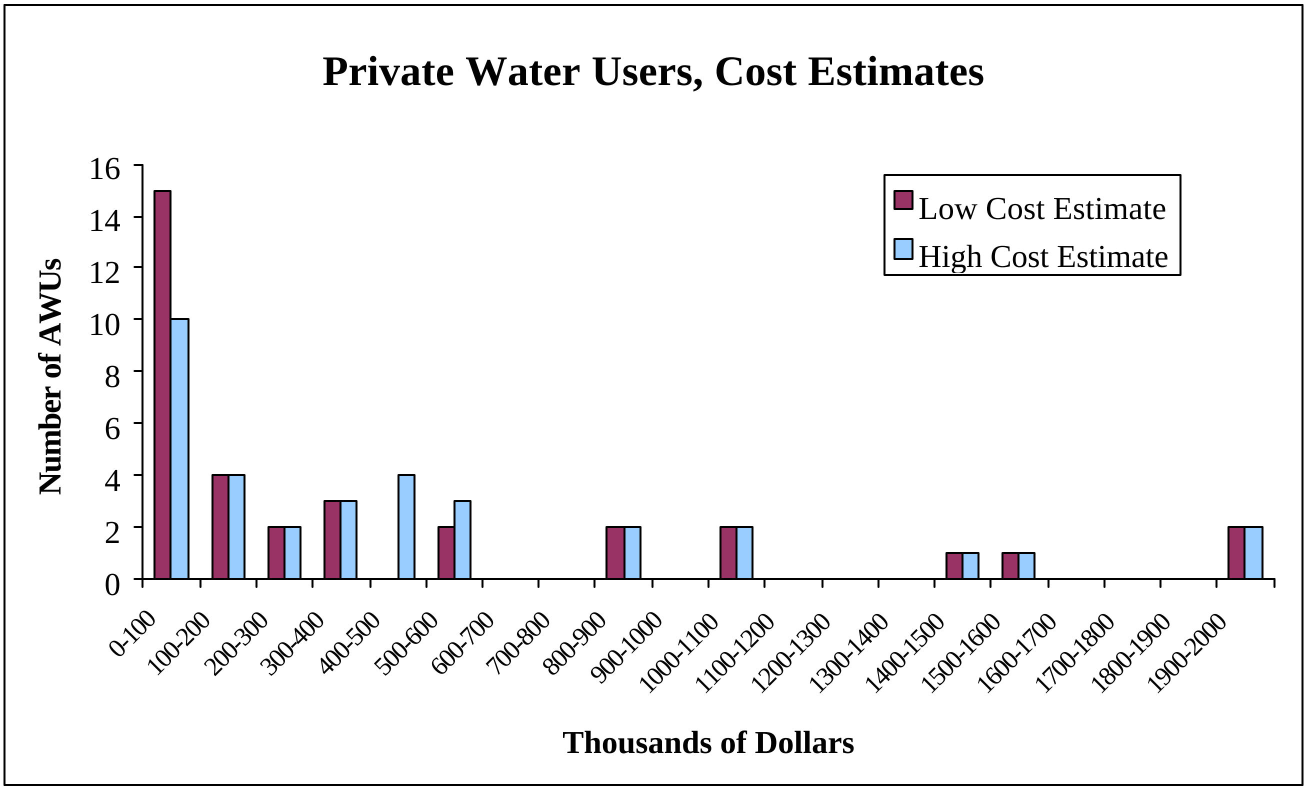


TABLE 5. Cost Estimates of Capital Investment to Private Businesses in Today's Dollars.

User ID	Number of Sources Affected	Username	Maximum Seasonal Storage Need (mil. gal.)	Season	Event Days (Upper 95% CI)	Low Cost Estimate	High Cost Estimate	Methods (Low Est – High Est)
20627	1	American Tissue Mills/NH	1.491	Winter	29.4	$187,857	$187,857	Pond
20190	1	Amherst Country Club	2.203	Summer	59.8	$277,530	$277,530	Pond
20619	1	Angus Lea Golf Course	0.439	Summer	59.8	$55,304	$55,304	Pond
20438	1	Attitash Bear Peak	33.282	Winter	29.4	$4,192,611	$4,192,611	Pond
20199	1	Bio-Energy Corp	12.368	Winter	29.4	$1,558,064	$1,558,064	Pond
20516	1	Bridgewater Power Co LP	4.182	Winter	29.4	$526,855	$526,855	Pond
20459	2	Brochu LA Inc	0.354	Summer	59.8	$91,605	$91,605	Pond
20593	1	Columbia Sand & Gravel	11.145	Summer	59.8	$1,403,924	$1,403,924	Pond
20558	1	Cummings, CB & Sons Co	0.711	Summer	59.8	$89,587	$89,587	Pond
20687	4	Edgewater Farm	0.200	Summer	59.8	$41,977	$41,977	Pond
20378	2	Gold Star Sod Farms Inc	6.110	Summer	59.8	$849,108	$849,108	Pond
20227	1	Green Meadow Golf Club In	6.836	Summer	59.8	$861,091	$861,091	Pond
20231	1	Hanover Country Club	0.567	Summer	59.8	$71,372	$71,372	Pond
20172	1	Harris Construction Co	0.730	Summer	59.8	$91,965	$91,965	Pond
20234	1	Jack O'Lantern Inc	1.425	Summer	59.8	$179,458	$179,458	Pond
20156	1	Jones Chemicals Inc	1.100	Winter	29.4	$138,565	$138,565	Pond
20216	1	Lane Construction Corp	0.317	Summer	59.8	$39,919	$39,919	Pond
20621	1	Monadnock Mountain Spring	0.632	Winter	29.4	$50,000	$465,971	Well-Tank
20324	1	Monadnock Paper Mills Inc	15.145	Winter	29.4	$1,907,804	$1,907,804	Pond
20684	1	Nashua Country Club	2.129	Summer	59.8	$268,178	$268,178	Pond
20635	1	Owl Street Associates LLC	0.543	Summer	59.8	$68,414	$68,414	Pond
20137	1	Paper Service LTD	0.998	Winter	29.4	$125,695	$125,695	Pond
20672	1	Papertech Corporation	2.931	Winter	29.4	$369,201	$369,201	Pond
20476	1	Passaconaway Country Club	2.879	Summer	59.8	$362,653	$362,653	Pond
20659	1	Pennichuck Water Works	0.514	Summer	59.8	$50,000	$434,611	Well-Tank
20351	1	Pennichuck Water Works	1.015	Winter	29.4	$100,000	$568,193	Well-Tank
20546	1	Persons Concrete LLC	0.065	Summer	59.8	$8,251	$8,251	Pond
20192	1	Pike Industries Inc	4.112	Summer	59.8	$518,048	$518,048	Pond
20195	1	Pike Industries Inc	8.591	Summer	59.8	$1,082,228	$1,082,228	Pond
20681	1	Pilgrim Foods	0.408	Winter	29.4	$50,000	$406,252	Well-Tank
20468	1	Sherwood Forest Mble Home	0.681	Winter	29.4	$50,000	$479,039	Well-Tank
20523	1	Souhegan Woods Golf Club	2.958	Summer	59.8	$372,592	$372,592	Pond
20478	1	US Army	15.441	Winter	29.4	$1,945,140	$1,945,140	Pond
20480	1	Wheelabrator Concord Co	7.944	Winter	29.4	$1,000,676	$1,000,676	Pond
20307	3	Wilson Farm of NH	0.121	Summer	59.8	$62,526	$62,526	Pond
						Low	**High**	
				Cost in Today's Dollars:		**$19,048,197**	**$21,102,263**	